

Application Serial No. 09/877,164
Amendment dated February 3, 2004
Reply to Office Action of September 29, 2003

REMARKS

The Examiner has rejected claims 1, 7 and 8 under 35 U.S.C. § 102(b) as being anticipated by Henry U.S. Patent No. 4,956,150. Claims 2-4, 14-17 and 20 are rejected under §103(a) as being unpatentable over Henry. Claims 1, 2, 5, 7 and 8 are rejected under §102(c), as being anticipated by Kedar et al. U.S. Patent No. 6,083,761. Claims 3, 4, 14-18 and 20 are rejected under §103(a) as being unpatentable over Kedar. Claims 1-6 and 8-12 are rejected under §102(b) as being anticipated by Oldenburg U.S. Patent No. 6,027,695. Claims 7, 13 and 14-20 are rejected under §103(a) as being unpatentable over Oldenburg, and further in view of Kedar.

By this amendment, claims 1, 9 and 14 have been amended; claims 15-20 have been canceled; and claims 21-22 have been added. With regard to the Examiner's observation in paragraph 1 of the Detailed Action, Applicants also re-submit with this amendment a copy of the IDS mailed to the PTO on August 31, 2001 and received by the PTO on September 4, 2001, as indicated by OIPE's mailroom stamp on Applicant's return postcard. Although the IDS was clearly received by the PTO, it was not properly entered into the file and consequently not considered by the Examiner. Consideration of the references cited therein is respectfully requested prior to issuance of a next Action, and Applicants request that if any rejection of the claims is to be made over those references, that the Action not be made final in fairness to the Applicants.

Independent claims 1, 9 and 14 have been amended herein to clarify that the side walls of the reservoir and the patterned bottom wall collectively define a reservoir interior for

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containing the liquid reagent, and that the plurality of upwardly-facing recesses formed in the patterned bottom wall are collectively surrounded by the reservoir side walls, with the volume of the reservoir interior being substantially greater than the collective volume of the recesses. The claim amendments further specify that the height of the reservoir side walls is at least several times the depth of the recesses such that liquid reagent can fill the reservoir to a level above the top edges of the recesses. Repeated extractions of sample volumes of liquid reagent may thus be made with the multiple head pipettor until the liquid reagent is completely removed from the reservoir. Support for the amendments may be found, for example, in the figures.

With respect to the rejections of the claims under § 102(b) over the Henry patent and the Oldenburg et al. patent, and under § 102(e) over the Kedar et al. patent, Applicants respectfully traverse. Each of the three cited references disclose multi-well test plates or microtiter plates for holding a plurality of liquid samples during an assay. By contrast, the claims of the present application are directed to a reservoir for containing a bulk liquid reagent for subsequent extraction by a multiple head pipettor, for example, for transfer to a multi-well test plate for assaying. As claimed, the reservoir includes a plurality of reservoir side walls and a patterned bottom wall that collectively define a reservoir interior. Formed or patterned in the bottom wall are a plurality of recesses that face upwardly into that interior. The plurality of recesses are collectively surrounded by the reservoir side walls. The height of the side walls is at least several times greater than the depth of the recesses such that the volume of the reservoir interior is substantially greater than the collective volume of the recesses, whereby the reservoir

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can be filled with liquid reagent to a level that is above the top edges of the recesses. This structure allows for a bulk liquid reagent to be contained in the reservoir and subsequently extracted in sample volumes for transfer to a test plate, for example, without wasting any quantity of liquid in the bottom of the reservoir and without having to use extra reagent to account for wasted reagent that cannot be extracted from the bottom. By virtue of the recesses in the bottom of the reservoir, the liquid reagent flows to the recess bottoms to allow for full extraction of the liquid reagent by the multiple head pipettor. The heads of the multiple head pipettor may be shafts, pins or disposable tips, which are aligned with the recess bottoms such that the pipettor is adapted to completely extract the liquid reagent that flows toward and accumulates at the recess bottoms as the level of reagent falls below the top edges of the recesses during the repeated extractions. This ensures that the amount of liquid reagent contained in the reservoir is equal to the amount transferred out of the reservoir to the test plate, for example, for assaying. By way of example only, if 192 ml of bulk liquid reagent is contained in the reservoir of the present invention, 20 extraction repetitions of 0.1 ml sample volumes may be carried out by a 96-head pipettor. Thus, 20 well plates each containing 96 wells could be filled for testing based upon the single fill of the reservoir, for a total of 1920 test samples. Different bulk liquid reagent volumes and/or multiple-head pipettors may be used in accordance with the invention. It is clear from this example that a reservoir of the present invention is distinct from the multi-well test plates of the references, which contain a plurality of separate, small sample volumes of liquid within individual wells for testing the samples.

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The multi-well test plates disclosed in the cited references do not teach a reservoir having side walls of greater height than the depth of recesses formed in a bottom wall so as to define an interior for containing a liquid reagent having a substantially greater volume than the collective volume of the recesses. Further, the cited references do not disclose a plurality of recesses that are collectively surrounded by reservoir side walls, with each recess facing upwardly into an interior formed by those side walls. The cited references further do not teach a method of filling such a reservoir with liquid reagent and then repeatedly extracting sample volumes of that liquid with a pipettor. Therefore, the cited references do not anticipate the claims of the present invention, as amended herein. Applicants thus respectfully request that the rejections under §§ 102(b) and 102(e) be withdrawn.

With respect to the rejections under § 103 over Henry, over Kedar et al., and over Oldenburg et al. in view of Kedar, Applicants respectfully traverse. As stated above with respect to the rejections under § 102, the cited references do not disclose a reservoir having side walls that surround a plurality of recesses formed in a patterned bottom wall and that define a reservoir interior having a substantially greater volume than the collective volume of the recesses. Moreover, the cited references do not teach or suggest the structure or method recited in the present claims, as each reference is specifically directed to addition of sample liquids into the individual wells formed in a plate. The cited references only disclose a well plate structure for use during assaying, and do not teach or suggest any structure or method for use with a reservoir for containing a bulk liquid reagent prior to and during extraction therefrom. The well plates of the prior art references also do not experience the same problems

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as bulk liquid reservoirs, for example, bubbles formed in the bulk liquid as a result of the liquid being mixed, agitated, or otherwise disturbed. The recesses of the patterned bottom wall of the reservoir of the present invention are configured such that escape of bubbles to the surface of the bulk liquid is facilitated. The features of the reservoir of the present invention are simply not taught or suggested by the references, particularly in light of the different uses and resultant challenges of the structures of those references compared to the inventive reservoir. Thus, there is no *prima facie* case of obviousness of the claims, as amended herein, and Applicants respectfully request that the rejections under § 103 be withdrawn.

Claims 21 and 22 have been added to further specify at least one baffle (34) extending upward from the patterned bottom wall to reduce splashing of liquid reagent in the reservoir. This feature is not taught or suggested by any of the cited references, nor do the references provide any motivation for including baffles because they are not directed to containing bulk liquids where splashing would be of concern. Therefore, claims 21 and 22 are allowable for these reasons, in addition to the reasons given above for claims 1 and 9.

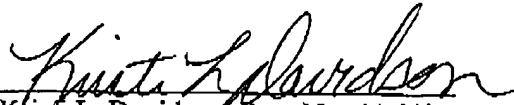
In view of the foregoing amendments to the claims and remarks given herein, Applicants respectfully believe this case is in condition for allowance and respectfully request allowance of the pending claims. If the Examiner believes any detailed language of the claims requires further discussion, the Examiner is respectfully asked to telephone the undersigned attorney so that the matter may be promptly resolved. The Examiner's prompt attention to this matter is appreciated.

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Applicants are of the opinion that no fee is due as a result of this amendment. If any additional charges or credits are necessary to complete this communication, please apply them to Deposit Account No. 23-3000.

Respectfully submitted,

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